

Notice of Allowability

Application No.

10/694,802

Examiner

Anthony Dinkins

Applicant(s)

MATSUOKA ET AL.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 10/29/2003.
2. ☒ The allowed claim(s) is/are 1-29.
3. ☒ The drawings filed on 29 October 2003 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date 10/29/2003
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date _____.
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

ANTHONY DINKINS
PRIMARY EXAMINER

Anthony Dinkins
Primary Examiner
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EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

The application has been amended as follows:

Abstract, line 1, change "comprising" to --comprising--.

Allowable Subject Matter

2. The following is an examiner's statement of reasons for allowance:

Regarding claim 1, the allowability in combination with other claimed features is because nowhere in the prior art is there a chip shaped electronic device having an ion intensity ratio of an alkali metal (A) and zinc (Zn), (A/Zn), in a range from the surface of the element body to a depth of (0.9×1) by a secondary ion mass spectrometry, $0.001 \leq (A/Zn) \leq 500$. Regarding claim 2, the allowability in combination with other claimed features is because nowhere in the prior art is there a chip shaped electronic device having an ion intensity ratio of Li and Zn, (Li/Zn), in a range from the surface of the element body to a depth of (0.9×1) by a secondary ion mass spectrometry, $0.001 \leq (A/Zn) \leq 500$. Regarding claims 3 and 16, the allowability in combination with other claimed features is because nowhere in the prior art is there a chip shaped electronic device having an ion intensity ratio of Na and Zn, (Na/Zn), in a range from the surface of the element body to a depth of (0.9×1) by a secondary ion mass spectrometry, $0.001 \leq (Na/Zn) \leq 100$. Regarding claims 4 and 17, the allowability in combination with other

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claimed features is because nowhere in the prior art is there a chip shaped electronic device having an ion intensity ratio of K and Zn, (K/Zn) , in a range from the surface of the element body to a depth of (0.9×1) by a secondary ion mass spectrometry, $0.001 \leq (K/Zn) \leq 100$. Regarding claims 5 and 18, the allowability in combination with other claimed features is because nowhere in the prior art is there a chip shaped electronic device having an ion intensity ratio of Rb and Zn, (Rb/Zn) , in a range from the surface of the element body to a depth of (0.9×1) by a secondary ion mass spectrometry, $0.001 \leq (Rb/Zn) \leq 100$. Regarding claims 6 and 19, the allowability in combination with other claimed features is because nowhere in the prior art is there a chip shaped electronic device having an ion intensity ratio of Cs and Zn, (Cs/Zn) , in a range from the surface of the element body to a depth of (0.9×1) by a secondary ion mass spectrometry, $0.001 \leq (Cs/Zn) \leq 100$. Regarding claims 7 and 20, the allowability in combination with other claimed features is because nowhere in the prior art is there a chip shaped electronic device having an ion intensity ratio of an alkali metal (A) and zinc (Zn), (A/Zn) , in a range from the surface of the element body to a depth of $100 \mu m$ by a secondary ion mass spectrometry, it is $0.001 \leq (A/Zn) \leq 500$. Regarding claim 8, the allowability in combination with other claimed features is because nowhere in the prior art is there a chip shaped electronic device having an ion intensity ratio of Li and Zn, (Li/Zn) , in a range from the surface of the element body to a depth of $100 \mu m$ by a secondary ion mass spectrometry, it is $0.001 \leq (Li/Zn) \leq 500$. Regarding claim 10, the allowability in combination with other claimed features is because nowhere in the prior art is there a chip shaped electronic device having an ion intensity ratio of Na and Zn, (Na/Zn) , in a

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range from the surface of the element body to a depth of 100 μm by a secondary ion mass spectrometry, $0.001 \leq (\text{Na}/\text{Zn}) \leq 100$. Regarding claim 11, the allowability in combination with other claimed features is because nowhere in the prior art is there a chip shaped electronic device having an ion intensity ratio of K and Zn, (K/Zn), in a range from the surface of the element body to a depth of 100 μm by a secondary ion mass spectrometry, $0.001 \leq (\text{K}/\text{Zn}) \leq 100$. Regarding claim 12, the allowability in combination with other claimed features is because nowhere in the prior art is there a chip shaped electronic device having an ion intensity ratio of Rb and Zn, (Rb/Zn), in a range from the surface of the element body to a depth of 100 μm by a secondary ion mass spectrometry, $0.01 \leq (\text{Rb}/\text{Zn}) \leq 100$. Regarding claim 13, the allowability in combination with other claimed features is because nowhere in the prior art is there a chip shaped electronic device having an ion intensity ratio of Cs and Zn, (Cs/Zn), in a range from the surface of the element body to a depth of 100 μm by a secondary ion mass spectrometry, $0.001 \leq (\text{Cs}/\text{Zn}) \leq 100$. Regarding claim 14, the allowability in combination with other claimed features is because nowhere in the prior art is there a chip shaped electronic device having an ion intensity ratio of Li and Zn, (Li/Zn), in a range from the surface of the element body to a depth of (0.9 X 1) by a secondary ion mass spectrometry (SIMS), it is $0.001 \leq (\text{Li}/\text{Zn}) \leq 500$. Regarding claims 22, 23, 26, and 27, the allowability in combination with the other claimed features is because nowhere in the prior art is there a method of producing a chip shaped electronic device having an ion intensity ratio of the alkali metal (A) and zinc (Zn), (A/Zn), in a range from the surface of the element body to a depth of (0.9 x 1) by a secondary ion mass

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spectrometry. Regarding claims 24 and 25, the allowability in combination with the other claimed features is because nowhere in the prior art is there a method of producing a chip shaped electronic device having an ion intensity ratio of the alkali metal (A) and zinc (Zn), (A/Zn), in a range from the surface of the element body to a depth of 100 μm by a secondary ion mass spectrometry.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anthony Dinkins whose telephone number is (571) 272-1972. The examiner can normally be reached on 6:30-3:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dean Reichard can be reached on (571) 272-2800 ext. 31. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Anthony Dinkins
Primary Examiner
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AD

A handwritten signature in black ink that reads "Anthony Dinkins". The signature is written in a cursive style with a large, looped "A" and a stylized "D".

ANTHONY DINKINS
PRIMARY EXAMINER